Title (en)

Oxygen blowing lance capable of being used in an electric and method for blowing oxygen onto metal by said oxygen blowing lance furnace

Title (de)

Sauerstoffblaslanze für einen Elektrolichtbogenofen und Verfahren zum Aufblasen von Sauerstoff auf flüssigen Metall

Title (fr)

Lance de soufflage d'oxygène, utilisable dans un four à arc électrique et procédé pour souffler de l'oxygène dans une masse de métal fondu à l'aide de cette lance

Publication

EP 0725150 A1 19960807 (EN)

Application

EP 96300646 A 19960130

Priority

- JP 1416795 A 19950131
- JP 1416895 A 19950131
- JP 1416995 A 19950131
- JP 1417095 A 19950131

Abstract (en)

An oxygen blowing lance capable of directing oxygen jet streams onto a molten metal in an electric furnace (1), the lance (11,12a,12b) being insertable into the electric furnace (1) through a sidewall working port (10), the lance (11,12a,12b) being positionable above the molten metal (9) in the electric furnace (1). The lance (11,12a,12b) includes a horizontal segment (15) and an angled segment (14), the angled segment (16) being positioned on the distal portion of the horizontal segment (15) and being inclined relative to the horizontal segment (15). The lance also includes a tip (14), the tip (14) being positioned on the distal portion of the angled segment (16), with the distal portion of the tip (14) being directed toward the molten metal (9). The horizontal segment (15), the angled segment (16) and the tip (14) define an oxygen flow channel (19) and a cooling water flow channel (20). The oxygen flow channel (19) extends substantially the length of the lance, and the cooling water flow channel (20) surrounds the oxygen flow channel (19). The lance also includes a plurality of nozzles (21), each having a throat portion (22). The throat portions of the nozzles (21) being positioned on the distal portion of the tip (14). The nozzles (21) are operatively engaged with the oxygen flow channel, and at least one of the nozzles (21) is positioned nearer the molten metal (9) than the other nozzles. <IMAGE>

IPC 1-7

C21C 5/52; F27B 3/22

IPC 8 full level

C21C 5/52 (2006.01); **F27B 3/22** (2006.01)

CPC (source: EP KR US)

C21C 5/5217 (2013.01 - EP US); **F27B 3/22** (2013.01 - KR); **F27B 3/225** (2013.01 - EP US); Y02P 10/20 (2015.11 - EP US)

Citation (search report)

- [X] US 4986847 A 19910122 - KNAPP HUBERT [DE], et al
- [X] FR 2489841 A1 19820312 - SIB METALL INSTIT [SU]
- [A] DE 4034809 A1 19920507 - BEDA OXYGENTECH ARMATUR [DE]
- [A] DE 1508234 A1 19691009 - POLYSIUS AG
- [A] BE 560846 A

Cited by

EP0964065A1; WO9964637A1; WO9836101A1

Designated contracting state (EPC)

DE FR GB IT SE

DOCDB simple family (publication)

EP 0725150 A1 19960807; **EP 0725150 B1 20000412**; BR 9600265 A 19971223; CN 1046765 C 19991124; CN 1183477 A 19980603; DE 69607664 D1 20000518; DE 69607664 T2 20000810; KR 100208915 B1 19990715; KR 960029746 A 19960817; TW 311621 U 19970721; US 5788920 A 19980804

DOCDB simple family (application)

EP 96300646 A 19960130; BR 9600265 A 19960130; CN 96105559 A 19960131; DE 69607664 T 19960130; KR 19960001872 A 19960129; TW 85216445 U 19960129; US 59228496 A 19960126